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A NEW MEADOW MOUSE FROM THE CASCADE MOUNTAINS  
OF WASHINGTON

BY WALTER P. TAYLOR

Field work in Washington State principally during the last three years has resulted in the accumulation of material which demonstrates the existence of an unrecognized form of *Microtus*, which is here described. The subspecies is named in honor of George Gordon Cantwell, field assistant of the Biological Survey.

***Microtus oregoni cantwelli* new subspecies**

## RAINIER MEADOW MOUSE

*Type* from Glacier Basin, 5935 feet, Mount Rainier, Washington. No. 232,814, ♂ adult, U. S. National Museum (Biological Survey collection), collected by George G. Cantwell, August 13, 1919. Original number 1487.

*General characters*.—A larger form of the subgenus *Chilotus* than those occurring coastwise, with tendencies to paler brown color; longer rostrum and nasals; and longer, narrower incisive foramina.

*Geographic range*.—The Cascade Mountains of Washington from the head of Lake Chelan and the Glacier Peak district on the north, south at least to the vicinity of Mount Rainier and Mount Aix. Apparently confined for the most part to the high Cascades. Zonal range, chiefly Canadian and Hudsonian.

*Color*.—The type, and a topotype (no. 320, ♂, State College of Washington, collected by W. T. Shaw) both taken in midsummer, are almost identical in coloration with the type of *Microtus oregoni bairdi* from Crater Lake, Oregon, being approximately the buckthorn brown of Ridgway (Color Standards, etc., 1912). They are distinguished from *M. o. bairdi*, however, by greater measurements throughout, as well as by the longer rostrum and incisive foramina. From typical *M. o. oregoni* or *M. o. serpens* they can be separated by color alone; *oregoni* tending to a richer brown, near ochraceous-tawny, and summer *serpens* tending to cinnamon-brown, due partly to a slightly darker shade of brown and partly to the presence of a greater number of dark hairs. *Serpens* collected in midwinter is considerably darker than typical *cantwelli*. Typical examples of the new form are grayish below, with the plumbeous hair bases showing through, and with a faint wash of buffy. Worn specimens appear darker, due to the effect of the plumbeous hair bases, and there is some variation in the color of the brown itself. Specimens from Mount Aix (Head of Hindoo Creek, 6500 feet, Yakima County) and Bumping Lake (3 miles northeast, at Goose Prairie, 3300 feet, Yakima County) closely resemble the type and topotype in color. Those from Entiat (20 miles above the mouth of the river, 1680 feet, Yakima County), Stehekin (Head of Lake Chelan, 1079 feet, Chelan County), Cascade Tunnel (3373 feet, Chelan County) and the Suiattle River (Chiwawa Mountain Fork, 4500 feet, Snohomish County), are somewhat darker. Practically all have the

faint wash of buffy beneath. One specimen from Stehekin (no. 230,435, U. S. Nat. Mus., Biol. Surv. Coll.) is identical with the type in color above, but is more strongly washed below with light ochraceous-buff.

*Skull*.—Compared with *M. o. bairdi* the crania are slightly longer, the rostra and nasals conspicuously so; incisor teeth tending to be longer and heavier, incisive foramina to be longer and narrower, particularly posteriorly, and zygomatic slightly heavier. Compared with *oregoni* and *bairdi*, there are observable tendencies in *cantwelli* to larger size, longer rostra and nasals, and longer and narrower incisive foramina. The crania are very similar, however, and the differences at best are slight.

*Measurements*.—Measurements of the type: Total length, 152; tail vertebrae, 46; hind foot, 18; nasals, 7.8; zygomatic breadth, 14.8; alveolar length of upper molar series, 5.6. Average measurements of nine adults from different parts of the range of *cantwelli*, total length 150 mm. (max. 161, min. 138); tail vertebrae 43 (max. 52, min. 34); hind foot, 18 (max. 19, min. 17); basal length, 21.9 (max. 23.4, min. 20.9); length of nasals, 7.0 (max. 7.3, min. 6.7); zygomatic breadth, 14.3 (max. 14.9, min. 14.0); mastoid breadth, 11.4 (max. 12.6, min. 11.0); alveolar length of upper molar series, 5.7 (max. 6.1, min. 5.5).

*Specimens examined*.—All are skins with skulls from the State of Washington. Mount Rainier, Glacier Basin, 5935 feet, 2; Mount Rainier, Sunset Park, 5000 feet, 2; Mount Rainier, Reflection Lakes, 4900 feet, 1; Chelan County, Entiat River, 20 miles from mouth, 1680 feet, 4; Chelan County, Stehekin, head of Lake Chelan, 1079 feet, 9; Chelan County, Cascade Tunnel, 3373 feet, 3; Yakima County, Mt. Aix, head of Hindoo Creek, 6500 feet, 2; Yakima County, Goose Prairie, 3 miles northeast of Bumping Lake, 3300 feet, 1; Snohomish County, Chiwawa Mountain Fork of Suitttle River, 4500 feet, 1.

*Remarks*.—The *Chilotus* stock, characteristic of the humid coast belt, has invaded the Cascade Mountains and, in places, penetrated to the east side. Apparently environment has effected a slight response in physical characteristics.

Intergradation of *Microtus oregoni cantwelli* with the *oregoni* stock to the west and south is shown by specimens from Scenic (McCain), 2106 feet, Snohomish County, and Signal Peak, 4000 feet, Yakima County. Examples from the west and south sides of Mount Rainier (from Sunset Park, 5000 feet, and Reflection Lakes, 4900 feet) referred to *cantwelli*, show characters tending toward *oregoni*. The extreme development of the subspecies has taken place in the higher country usually on the east slopes of the mountains, while specimens from lower altitudes, either east or west of the Cascade divide, possess less well-marked characters. Examples from lower levels of Mount Rainier National Park and nearby (Longmire Springs, 2700 feet; Mesler's Ranch, 2000 feet, one mile west of Park boundary) as well as specimens from Scenic (locality just given), Signal Peak (ditto), and Husum and Trout Lake, Klickitat County, are referred to *oregoni*.

Two specimens of *M. o. oregoni* from the north base of Three Sisters, 5,000 feet, in the Cascade Mountains of Oregon (nos. 204,722, ♂, and 204,718, ♂, U. S. Nat. Mus., Biological Survey collection) are larger than the typical form, and may be referable to *cantwelli*.

I am indebted to Prof. W. T. Shaw, in charge of the museum, State College of Washington, Pullman, Washington, for the loan of material.

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## GENERAL NOTES

### SOME NOTES CONCERNING THE MASTIFF BAT

In Mr. A. B. Howell's recent paper on bats, the remark is made that, after trying various methods, he did not succeed in making the mastiff bat (*Eumops californicus*) fly (Journ. Mamm., vol. 1, no. 3, p. 112, 1920). I had the opportunity to study several of these bats taken with Mr. Howell at Colton, Riverside County, California. The bats were placed in a large screen porch where there was ample room for them to fly. One afternoon while trying various experiments with the animals, I succeeded in making one bat take wing from the floor. It flew up about two feet and made a semicircular flight of about ten feet and then lunged to the floor again. This attempt looked rather encouraging, but as hard as I tried, I could not make the bat fly again. On warm days the bats were very active, and when disturbed they scampered about seeking a dark corner, or something to crawl under. When they bumped into the wall, or any perpendicular object, they began to climb head forward until off of the floor, and then turned and climbed backwards, pulling with each foot alternately.

—Luther Little.

South Pasadena, Calif.

### AS TO THE WOLVERINE

The story which tells that the "glutton" or wolverine secures its prey by lying in wait on the branches of a tree for a deer to pass under it and dropping on the deer's back and killing it has been the text for not a little jocular writing. Coues laughed at it and says of the wolverine, "It is imperfectly plantigrade and does not climb trees like most of its allies." Most people regard the tale as fable. Is it so, or has it—like many other traditions—a basis of fact?

Little seems to be known of the wolverine's habits. A few trappers have told of the mischief it does along the trap line, but except for that, not much has been written of its ways of life; and of what has been told, almost none is at first hand. The animal seems hardly to have been observed by naturalists.

It is generally stated that the wolverine does not attack large animals, but lives on grouse and rabbits and other small creatures. This means only that because—in the opinion of the writers—it is not sufficiently active to catch them, therefore it does not attack large animals. It will subsist on whatever food is most easily accessible and this may cover a wide range of species, from